

THE HUNT FOR **RED** OCTOBER



EmuMovies



COMMAND MANUAL

THE HUNT FOR RED OCTOBER

by Tom Clancy

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BACKGROUND INFORMATION

Submarines have been described as the "Capital Ships" of today. Every major maritime power is investing in sophisticated technology and design research to make these potent weapons harder to discover and more deadly.

The submarine's main enemy is sonar. Whilst passive measures, such as new hull designs and anechoic (noise-absorbing) tiles have become more widespread, submarines still have to endure the nerve-racking hunts for their presence by the sonar beacons carried on modern ships and aircraft.

Once located by the hunters, the traditional weapon for attacking submarines is the depth-charge. However, to allow a modern day submarine with sophisticated weapons systems into depth-charge range is very dangerous for a surface vessel.

Most Soviet Anti-Submarine Warfare vessels carry a rocket launcher system to provide the greater range required. This solves the problem of a torpedo being too slow and limited in range as it can be delivered to a point where it will "home-in" on the target.

The US Navy is about to introduce the ASW-SOW (Anti-Submarine Warfare - Stand Off Weapon) which uses a rocket fired from a safe distance to deliver the torpedo to the target area. The torpedo parachutes into the sea homing-in on its target.

Submarines can fire torpedoes at other submarines, but normally the defending submarine can outrun it.

Even greater threats to submarines are mines and aircraft. Most submarines carry mine warning equipment to help avoid US Navy Captor mines. These have no Identification - Friend or Foe (IFF) function and automatically release an acoustic torpedo if triggered.

The threat from the air is even more deadly as this is far more difficult for the submarines to detect or defend against. A task force hunting down a submarine can extend around itself a search zone far in excess of the submarine's effective torpedo range.

A typical ASW engagement has several distinct stages.

The first stage is the search, where the hunter seeks out his quarry. At this stage the hunter may be operating in excess of optimum ASW speed, and hence be vulnerable. It is likely that the search will be confined to passive sensors, aided by any other input that may be obtained from satellites or seabed detection sensors.

Once contact has been established classification begins. The acoustic signature of the target will be compared to those in the hunter's data banks. This will determine the type of target and to avoid giving away the hunter's position will be accomplished, if possible, by using passive sensors again.

The hunter then moves into an attacking position to maximise the opportunity for success for its weapons. In the case of submarines this is about half the maximum range of 10-12 nautical miles of its torpedoes.

If the attack is unsuccessful there follows a phase of highly manoeuvrable "dog-fighting" between the combatants, before the engagement is terminated, either by a fatal hit, or by one of the participants breaking off the conflict.

Once locked in combat the homing torpedo is a deadly enemy. Towed arrays streamed about 400 yards astern can be used to generate simulated propeller noise or flak to distract incoming torpedoes.

If a submarine threat is identified it must be fully investigated. Whilst the main body of a task force may turn away, ASW ships and aircraft will attempt to establish contact. Tactics such as a "noisy" sprint followed by a totally silent "drift" to the target are still employed by modern-day nuclear submarine commanders in order to gain advantageous attacking positions.

In summary, the commander of a nuclear powered submarine controls one of the most powerful weapons known to mankind.

Difficult to detect. Swift to strike.

Pressurised decisions are the order of the day - one mistaken judgement could be your last.

COMMANDER'S BRIEFING

As the most senior of Russian submarine commanders you are ordered to test the latest in Soviet naval technology - a submarine so quiet, with a revolutionary new drive system, that it is almost undetectable.

But you have decided to defect. Your officers have been hand picked and are willing to risk their lives to join you. The enlisted crew members suspect nothing and you must ensure that this remains the case. Your carefully worded mission orders (which are completely fake) are designed to conceal your true purpose.

Unfortunately, any Soviet naval vessel of importance carries a KGB-appointed Political Officer of a rank close to or even higher than your own, and this person would certainly recognise the falseness of your orders. Shortly after departure you kill him. You have also alerted the Soviet authorities to the enormity of your crimes by sending a confession on cassette to your Admiral explaining the defection. They will try to stop you at all costs. Moreover, you cannot rely on the Americans for 100% support. They are far from certain that this is not some double-bluff operation.

The simulation starts in the Reykjanes Ridge. The primary aim here is to avoid detection amongst the deep rock formations. Interspersed in this area will be Russian vessels, both surface and submarine, US attack submarines, and a complete underwater listening network, with the sole aim of preventing vessels such as the Red October from slipping through.

Whilst stealth is vitally important at this stage, so is the fact that progress needs to be made. Events planned for later in the voyage include the failure of the nuclear power plant. You will therefore need to use the diesel back-up engines to replace the nuclear powered propulsion system. Extended use of these engines increases the need to surface to recharge the batteries, and therefore increases the risk of discovery. Failure to make sufficient headway early in the game will result in greater problems later.

Once your false orders have been read to the crew, you must not raise their suspicion unnecessarily. To journey to the wrong part of the map will raise worried questions from your navigation officer, and may result in you being relieved of your command.

The plan is simple. Your orders have directed you to test the defences of the eastern seaboard of the USA. As you cross the Atlantic, your engineering officer will fake a leak in the nuclear power plant which necessitates the crew being evacuated onto an American vessel. The heroic officers of Red October will scuttle the vessel to prevent it from falling into capitalist hands.

In reality the Americans have arranged a rendezvous with Red October in order to scuttle one of their own submarines and keep Red October for themselves.

The rendezvous is scheduled to take place just outside US territorial waters. To enter US territorial waters may not be catastrophic for you, but docking at a US port most certainly would be. Under maritime law the Soviets would be able to reclaim the Red October swiftly.

This simulation gives you the chance to pit your wits and skills against the world's most powerful fleet. Are you up to the job?

GAMEPLAY, STRATEGY AND TACTICS

The control mechanism of the Red October is entirely icon driven to allow the swift transmission of orders. Once an order has been issued by the Captain, the officer responsible will acknowledge and execute it. Once complete, the officer will confirm it via the message window.

Control of speed, depth and bearing are the three tenets by which a submarine commander lives or dies. They are continually displayed on the left-hand panel and allow the Captain to evaluate the main display area data.

This area can either be used to review the local position or the broader North Atlantic projection. The latter map shows approximate positions of all known fleets and, of course, the Red October. This data, however, may become flawed as time progresses and the position of ships alters.

The contour screen is of greatest use to the Captain in the early part of the game, as he negotiates the very complex series of valleys in the Reykjanes Ridge - affectionately renamed by the crews of the Soviet Northern Red Banner fleet as "Gorshkov's Railroad" after their Admiral Gorshkov.

This area is the main dispersal route for Soviet ballistic missile submarines. It is also where Soviet and US attack submarines surreptitiously wait to track and ultimately eliminate any threat.

The contour screen allows the player to plan routes through the Ridge area, as well as any other shallow areas. Sonar sweep can be superimposed on the contour screen to allow identification of other vessels in the vicinity.

You may also use the display area for the periscope view which show full details of all the vessels in the area. The attack scope will lock data into the fire control computer to allow the maximum chance of a "hit".

A submarine's main strategic strength is surprise. The ability to attack without warning and escape into the depths silently is the key to survival.

Red October has a unique advantage over all rivals and contemporaries. It is fitted with the caterpillar drive system, which facilitates a silent, virtually undetectable, passage through the ocean's waters. To use this system, however, reduces speed by nearly two-thirds. The longer Red October

delays reaching its clandestine rendezvous with the US Navy the greater the chance of detection by the Soviet fleet. Any undue delay must be avoided - the net will tighten!

To fulfil your mission you must deliver Red October to the Americans, intact and irretrievable. Failure means certain death.

NAVIGATION

During the initial section of the game you must navigate through Reykjanes Ridge, some of the most dangerous submarine landscapes known. Using the gradiometers you can utilise projected cross sectional displays which help you plot the safest route through the area.

The principle routes through the Ridge are well documented and known by all submarine commanders. Both Russian, US, and NATO forces will be in position and must be avoided. To disguise your presence requires the nerve to manoeuvre Red October around massive obstacles and camouflage the sonar input to other vessels.

The main danger to avoid is grounding or damaging Red October. Its carefully designed hull is aimed at minimising noise and cavitation and fragile hull sensors provide much of the electronic data needed for navigation. Great care must be used.

There is also the danger from mines. "Captor mines" deployed by the US Navy have no IFF sensors (Identification Friend or Foe). These fire acoustic torpedoes at submarines which trigger pressure-sensitive launch mechanisms. Other mines may also be present. The hydrophonics officer will keep you posted on these dangers.

When other vessels are in the area the Red October comes into her own. The caterpillar drive system minimises the risk of discovery, however, to use any active system will negate this advantage.

To avoid detection it is vital to minimise speed and noise levels and vary depth according to local conditions. By using the inbuilt systems advantages of Red October and the surrounding terrain you will have a better chance of evading pursuers.

UNDER ATTACK

Once located, it is possible that a submarine could track Red October without you realising because of the limitations of passive sonar. It is essential therefore that the commander regularly checks that no "tail" has been acquired. The manoeuvre known as "Crazy Ivan!", requiring a sudden 360° turn, is a useful ploy. It results in a following submarine having to react rapidly, silently and change its course, if it is not to be revealed.

If the Red October is attacked there are several options available.

The most simple is to outrun the torpedo. Modern torpedoes are not as fast as a submarine at full power and the longer the missile is in the sea the greater the potential to deflect or confuse it. This method creates a great deal of noise however, and precludes a long "cat and mouse" engagement.

A second option is to lay an electronic decoy. These decoys simulate propeller noise and submarine sounds in the water and are towed about 400 yards behind the submarine, where a missile may explode harmlessly.

A third and more risky option is to head towards the torpedo. In order to prevent the torpedo from detonating, it must be intercepted within the "safe detonation" area. This is the minimum distance (about 1000 metres) that a torpedo must travel from the attack submarine before it can explode otherwise the attack submarine itself may suffer damage. By intercepting a torpedo within the minimum distance, it will hit your submarine but not explode.

ON THE ATTACK

Red October's defensive capability is restricted to four torpedo tubes. Designed principally as a floating nuclear missile launch pad, the torpedoes are her only method of despatching a pursuing enemy to the deep.

Having identified an enemy it is vital for the Red October to get into torpedo range. The maximum range is ten to twelve nautical miles. Normally, however, submarine commanders prefer to sneak in close to half that range to increase the chances of a hit. Whilst acoustic torpedoes can be launched by using sonar bearings through the fire control computer, it is perhaps illuminating that many attacks are still carried out with periscope sightings, despite the obvious risk of discovery.

If the manual override mechanism on the torpedoes has been initiated, the bearing and elevation in relation to the target vessel are important. The sooner the missile reaches the surface, the more likely it is to be spotted visually and electronically. The missile should not be fired too deep as decoys may deflect the torpedo from its target.

AMERICAN TACTICS

Throughout this simulation the US Navy has one aim: to track the Red October, and assist the commanding officer to defect in accordance with its plan to get its hands on the sub.

To achieve its objective the US fleet will shadow the searching Russian fleets whilst trying to track Red October with attack submarines from the Reykjanes Ridge.

Once the Red October has been located, the US Navy will try to establish surface contact at the rendezvous point and ensure that an old US submarine is scuttled so that Red October can take on a new identity.

The only thing that can alter the US tactics would be if Red October launched an attack on US forces. This would result in the US Navy joining the Russian forces in a "seek and destroy" mission for Red October, to prevent the "rogue ship" from causing a nuclear war.

RUSSIAN TACTICS

Russian tactics are to stop the defection - at any cost.

All other nuclear ballistic missile submarines are recalled to base to prevent the US misinterpreting their action in deploying three search fleets in the Atlantic Ocean. Each fleet will carry out organised and joint search patterns for Red October in the Ridge and throughout the Atlantic.

The Soviet naval air force will support each fleet through wide search patterns to trace the missing submarine.

At the beginning of the simulation, the Soviet attack submarines will take up position off the major US military and commercial ports on the Eastern Seaboard of the USA to blockade entry by the Red October.

All Soviet "spy" trawlers will be instructed to trace the Red October using the latest and most sophisticated tracking equipment. Information from these vessels can be a source of great danger to Red October and her crew.

Russian tactics will vary with each game. The split second nature of decision making and the pressure to succeed can cause surprise reactions from the pursuing Soviet navy.

If the Red October defects, many Soviet officers face disgrace. They may lose their jobs, perhaps even their lives. To succeed they may take foolhardy risks with their own ships and crew.

As the game progresses the tension and the systematic search pattern used by the Soviet fleet increase the chance of detection. However, the Soviet navy is renowned for the poor security of its communications concerning strategic positions.

The careful use of ESM - Electronics Surveillance Measures - may provide that vital piece of information on the deployment of Soviet forces to ensure your success.

COMMAND MANUAL

Red October is the latest Soviet nuclear ballistic missile submarine. Armed with 26 SS-N-20 Seahawk missiles, each with eight 500-kiloton multiple independently targetable re-entry vehicles - MIRVS - it represents a potent weapon, capable of destroying two hundred cities.

Red October is also the first Soviet submarine to be equipped with the unique 'Caterpillar' propulsion system. This allows the submarine to reduce the amount of cavitation sound it emits and therefore to remain virtually undetectable.

In this simulation of *The Hunt For Red October* you are Captain First Rank Marko Ramius, Commander of Red October. Your mission is to guide Red October to the Eastern Seaboard of the United States of America . . . to *DEFECT*.

THE DEFECTION

The plot to defect has been devised over many months of planning. The simulation starts as Red October begins to negotiate the Reykjanes Ridge off the Icelandic coast. This area is the major route for Soviet submarines leaving the ports used by the Northern Red Banner fleet for the Atlantic Ocean and the US coastline.

To navigate this area takes great skill as the US and NATO have concentrated their submarine detection networks on this area. The objective for the player is to navigate to the Atlantic, rendezvous with the US Navy away from the Soviet fleet and arrange a transfer of crew. This allows the US Navy to create a suitable subterfuge on the fate of Red October to allow them to smuggle the vessel secretly to port. To sail Red October openly into a US port would result in the Soviet authorities reclaiming the vessel under maritime law.

The crew of a hundred enlisted men are not aware of the planned defection. It is important therefore not to deviate greatly from the orders, albeit false, given to the crew at the beginning of the voyage. These orders are that Red October is to probe the eastern seaboard defences of the USA and on completion to head to Cuba on a courtesy visit. Designed to disguise the true intention of the mission as well as tantalise the crew with

the excitement of the Cuban visit, the orders are far removed from those originally given to you by the Political Officer.

You must also take into account that the Soviet fleet's only aim is to prevent Red October from falling into American hands. If it is necessary to destroy Red October then it will.

LOADING INSTRUCTIONS

AMIGA	: Insert disc at workbench prompt and the disc will auto-run.
ATARI ST	: Click on the HFRO.PRG Icon. The program will load and run.
AMSTRAD PC 1512 (IBM PC and Compatibles) (CGA)	: 512K versions Load MS.DOS Type HFRO <Return> and disc auto-run 256K versions. Load MS.DOS Type HFR0256 <Return> and disc will auto-run
COMMODORE C64/128	: Type Load """,8,1 <Return> and disc will auto-run. (Refer also to page 38 notes)
MSX	: Type BLOAD "CAS:", R and press Return. (Refer to page 38 notes)
SPECTRUM	: Insert cassette and type LOAD"" and return. (Refer to page 38 notes)

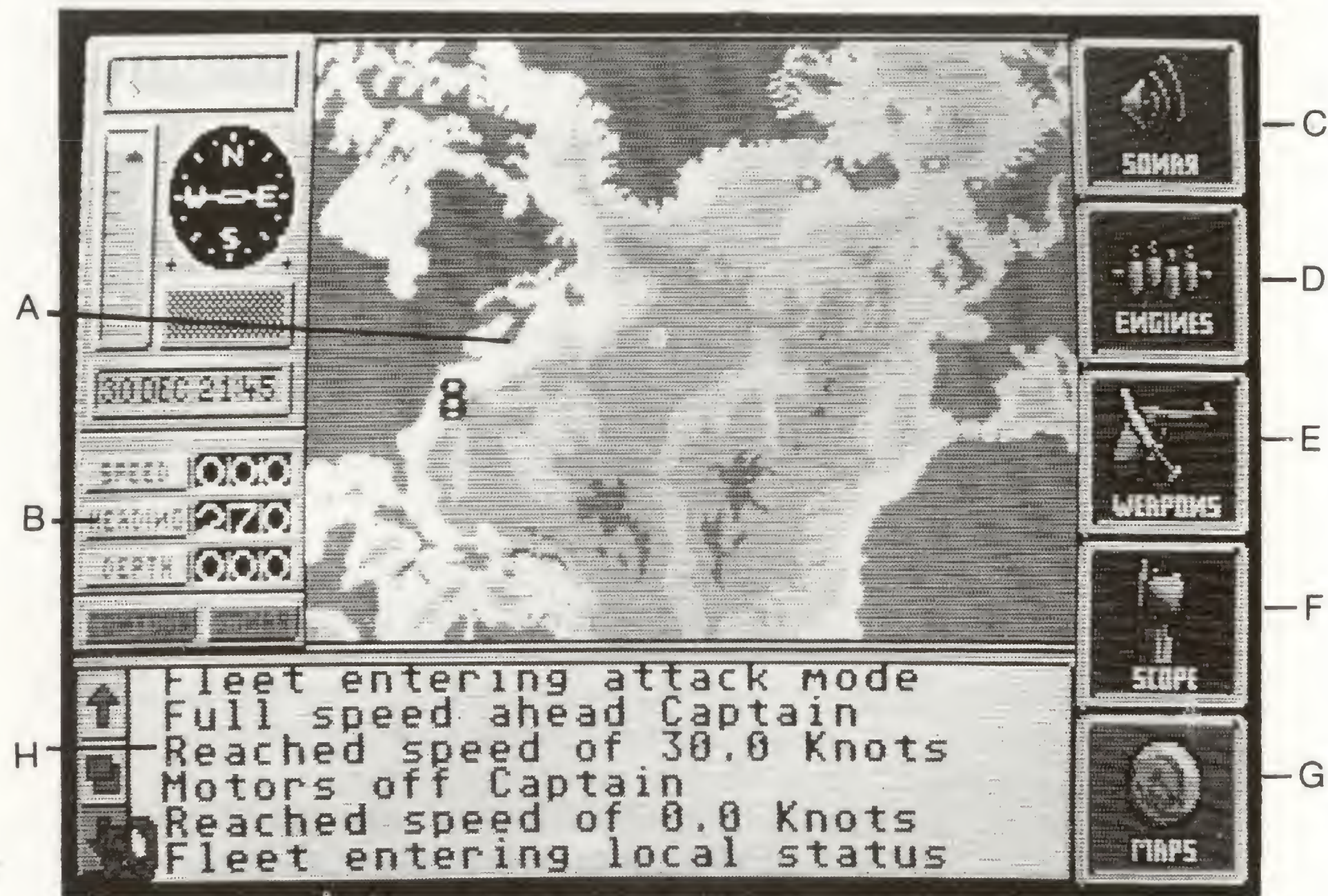
CONTROLLING THE RED OCTOBER

Once the game has loaded you will be shown the High Level Command Screen (Figure 1). Also on the map will be a mouse pointer (*in the shape of an arrow and sickle*). By moving the pointer over the relevant parts of the screen and clicking once on the left-hand mouse button the action indicated will be selected.

On the PC version cursor keys replace the mouse. Pressing the space bar has the same effect as clicking the left-hand mouse button. Pressing the Escape key is the same as pressing the right-hand mouse button.

COMMAND STRUCTURE

FIGURE 1: HIGH LEVEL COMMAND SCREEN



- | | |
|-------------------------|--------------------------|
| A - Main Display Window | E - Weapons Officer |
| B - Main Control Panel | F - Periscope |
| C - Sonar Officer | G - Main Display Control |
| D - Engineering Officer | H - Message Window |

NOTE: Actual screenshots used throughout this manual.

A. Main Display Window

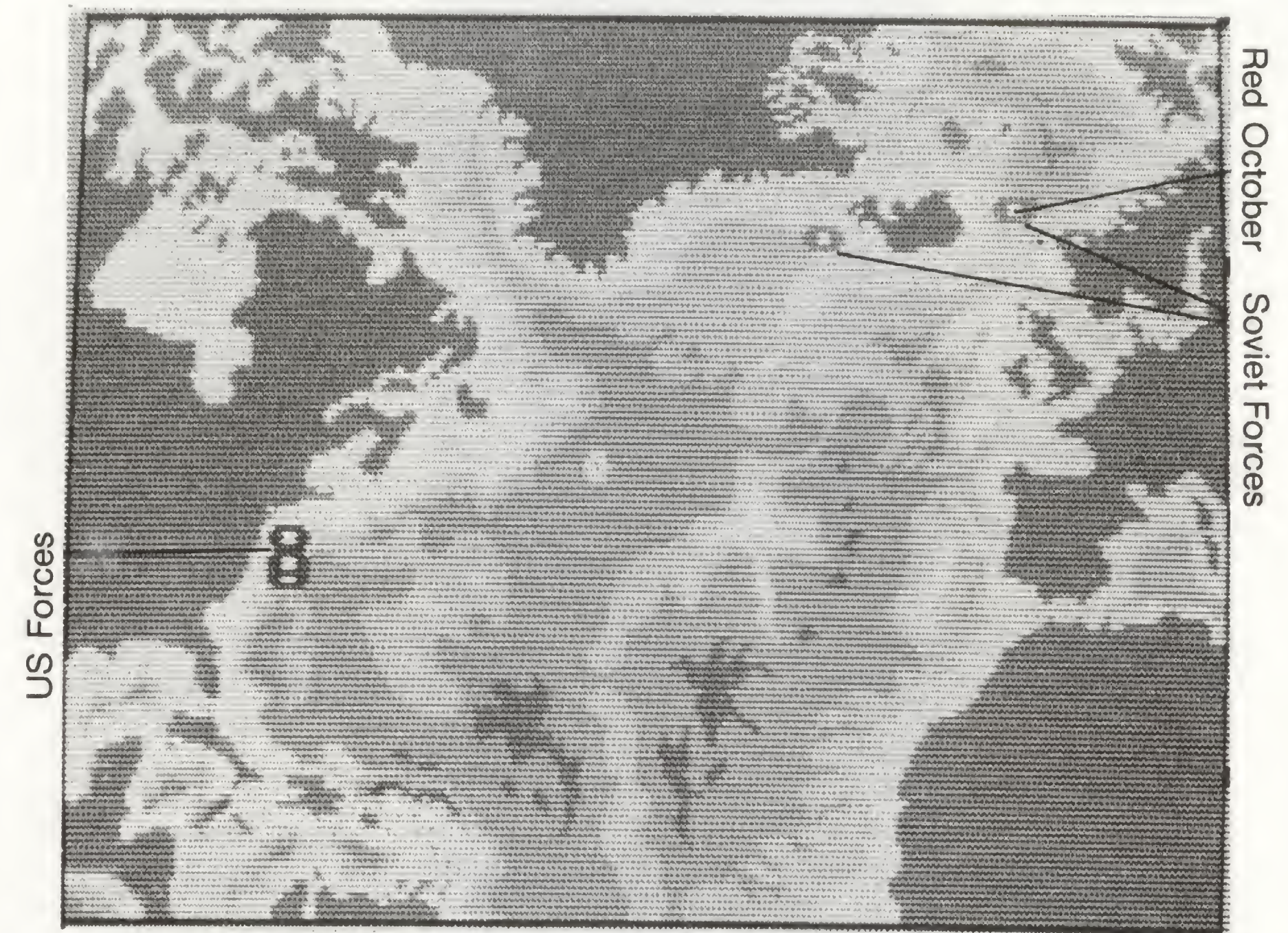


FIGURE 2: ATLANTIC MAP

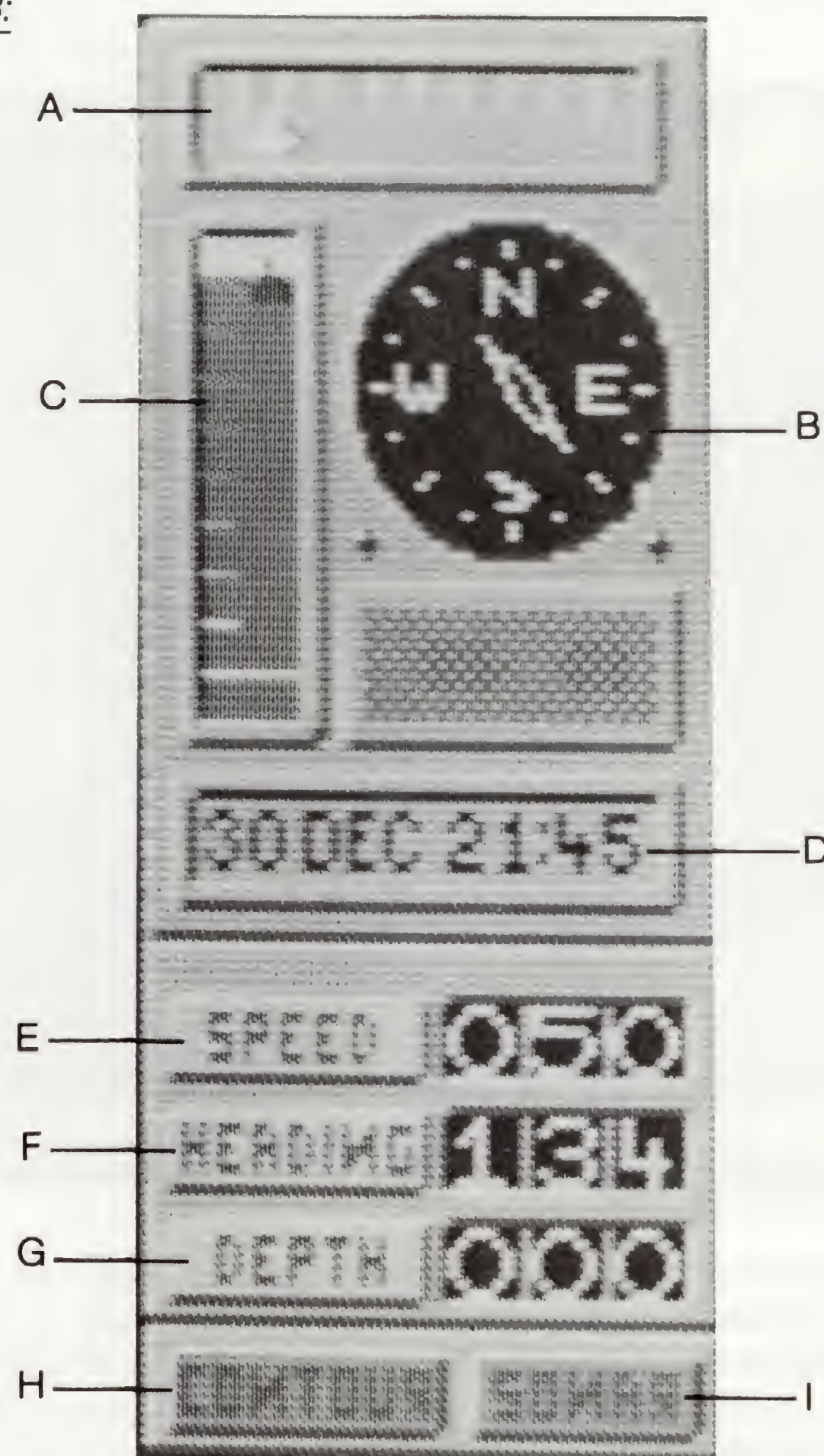
This is a large scale projection of the North Atlantic area. The position of Red October is shown on it as a small red submarine. It also shows known positions of major fleet formations, both Soviet and NATO, in blue and green respectively. These positions will be updated throughout the game based on the latest intelligence available to Red October.

PC versions – Fleet Positions are shown in Blue and Red.

Commodore 64/128 versions – Fleet Positions are shown in Red and Green.

B. Main Control Panel

FIGURE 3:



This panel provides the Captain with instant control over the major navigational functions. Icons can be activated by a single click as follows.

A- Speed Indicator.

On this gauge the Captain can change speed by clicking on the required level and then the execute button.

This is used when the Captain wishes to change speed very quickly.

B - Compass.

The compass allows the Captain to click on a required heading and then click on the execute button, to change course.

C - Depth Gauge.

On the depth gauge, by clicking on the depth required, the Captain can make rapid adjustments whilst still analysing other data on the main screen display.

Once executed the main indicator will move to the indicated depth position.

D - Clock.

A 'gametime' clock may be accelerated by holding the mouse button down continuously over the right-hand area of the clock. To slow the clock to gain time, press the mouse button continuously over the left-hand side of the clock. This speeding up of the clock allows the Captain to accelerate the passage of time until a further order is required or message received.

N.B. It is dangerous to use this function in areas where navigation is complex, otherwise you run the risk of grounding and damaging Red October.

E - Speed Readout.

This indicates the current speed in knots. By clicking on the icon the Captain is given the option of increasing or decreasing speed (Figure 3.1). If he selects 0 knots he is giving the order of 'total silence'. This may be used when trying to avoid detection.

F - Heading Readout.

This provides accurate control of the heading of Red October. When setting a course this is the best method of ensuring that the course set is correct. However, if the Captain wishes to perform an evasive manoeuvre involving rapid changes of course he may elect to use the quicker compass method outlined in B above.

G - Depth Readout.

Depth is given in metres. It is essential that the Captain is aware of this for two reasons - first, he must not dive below the safe pressure depth of 450 metres. Secondly, he must ensure that depth is appropriate for the seabed terrain.

H - Contour Display Control.

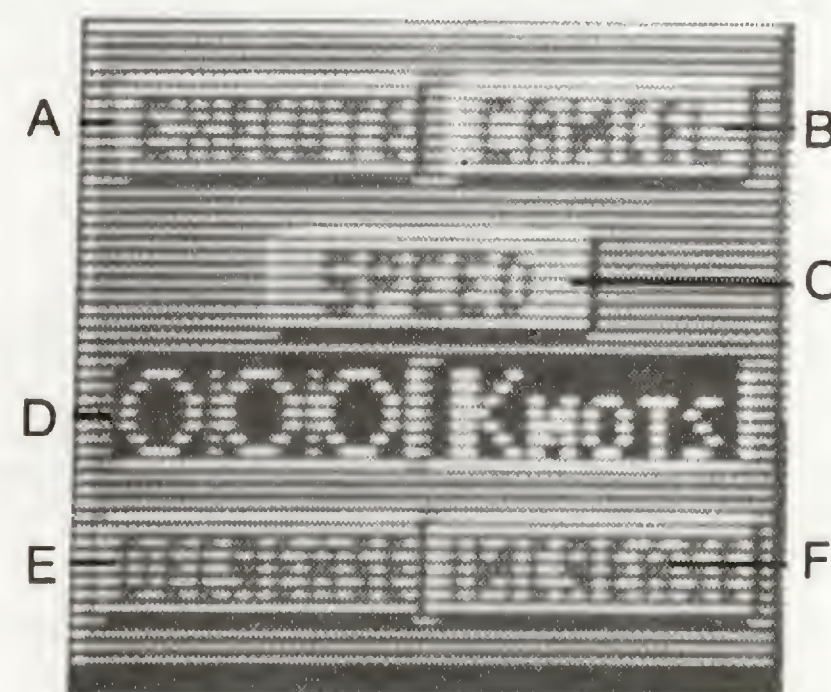
This turns the contour display map in the main area on and off, as the Captain requires.

I - Sonar Display Control.

This turns the sonar display map in the main display area on and off, as the Captain requires.

FIGURE 3.1: ORDER EXECUTION PANEL

Once the Captain has selected the parameter he wishes to change - speed, heading or depth, he must execute the order for his officers to obey.



A - Execute Order.

Clicking on this button will execute the order selected by the Captain. This must be done before any order from the main control panel can be executed.

B - Cancel Order.

This cancels the order originally selected by the Captain and can only be prior to execution. Once an order is executed then only a fresh order countermanding it will prevent it from being carried out.

C - Function.

This shows the function that the Captain is adjusting - speed, heading or depth.

D - Function Readout.

This shows the level of the function at the time of the order, and can then be changed to the new level required, by using increase/decrease buttons.

E - Decrease Button.

Decreases the level shown in 'D' until it reaches the level required by the Captain.

F - Increase Button.

Increases the level shown in 'D' until it reaches the level required by the Captain. Combined with 'E' it allows the Captain to "fine tune" the submarine's speed, heading or depth, rather than the approximate orders given via the main control panel.

On execution of an order the original panel (Figure 3) will return and the Captain can adjust other parameters whilst new orders are being implemented.

Each change of the instructions must be executed and acknowledged by the relevant officer. The officer will also report when the order has been accomplished.

Once an order has been given the Captain can concentrate on other more pressing matters, safe in the knowledge that his hand-picked officers will respond correctly.

This flexible and simple command structure means that numerous orders may be given and complicated manoeuvres performed with the minimum of effort.

GIVING ORDERS TO OFFICERS

Clicking on the Icon in Figure 4 displays the functions of the Sonar Officer.

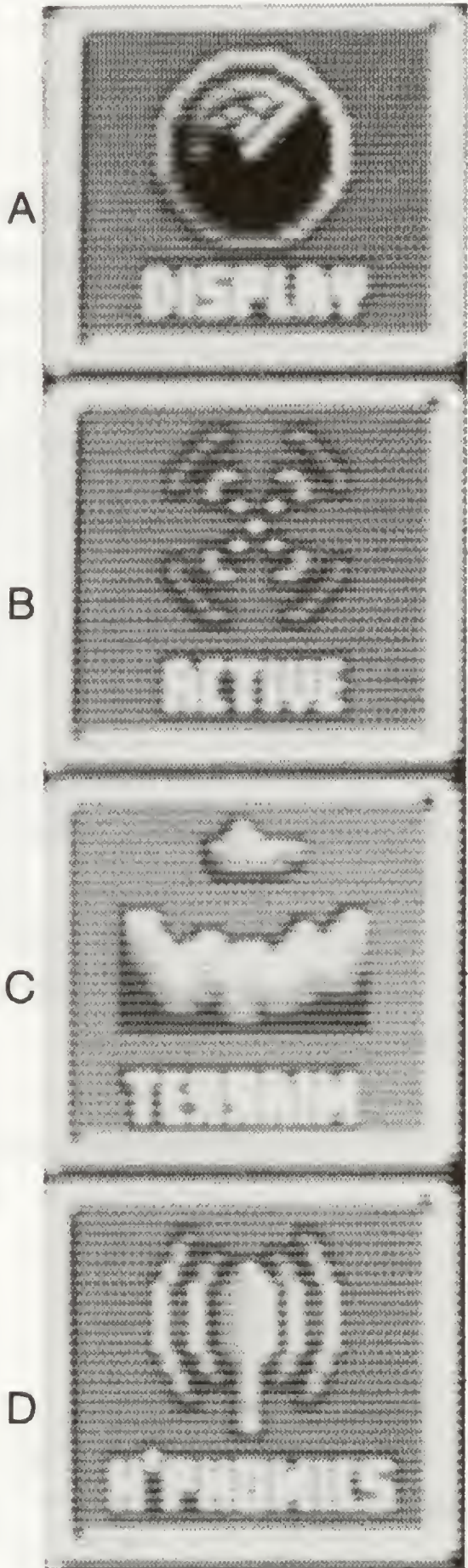
FIGURE 4: SONAR OFFICER

This calls up the Sonar function icons shown in Figure 4.1.



FIGURE 4.1

Sonar represents the ears of the modern submarine. Sonar technology has developed to such a degree that listening to the sound patterns of a vessel as it moves and operates enables trained operatives to recognise vessels with remarkable accuracy. Submarines operate with a continuous passive sonar which gives approximate details of targets and their identity or heading. The data, however, is highly subjective and it requires verification by visual sighting, further triangulation or by the use of "active" sonar to gain an accurate fix on the target. It also leaves vulnerable blind spots which can be exploited by hostile attack submarines.



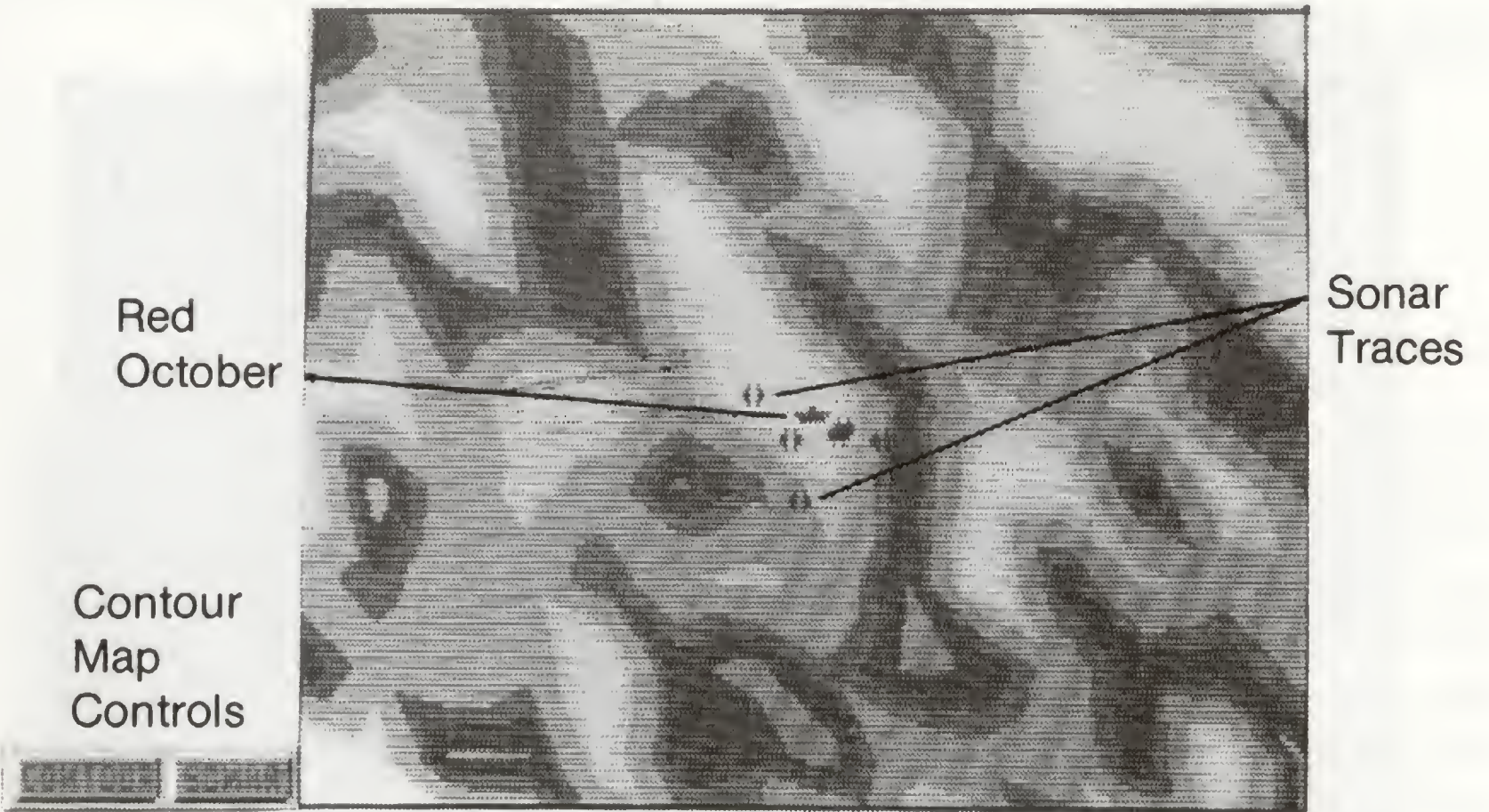
A - Sonar/Contour Display.



This screen calls up the contour display of the sea bed. This accurate relief map is supplied by gradiometers fitted to Red October which sense the depth of the Ocean, and project the known area around the vessel. (Figure 4.2).

The gradation is by colour, white being the peaks of rock formations, and the darkest blue, the sea bed itself. (On the PC version the effect is achieved by stippling the colours. The darker the stipple, the deeper the sea).

FIGURE 4.2



By using this information together with the sonar information supplied, and superimposed on the map, the Captain can navigate his way through the treacherous Reykjanes Ridge to the relative safety of the mid-Atlantic.

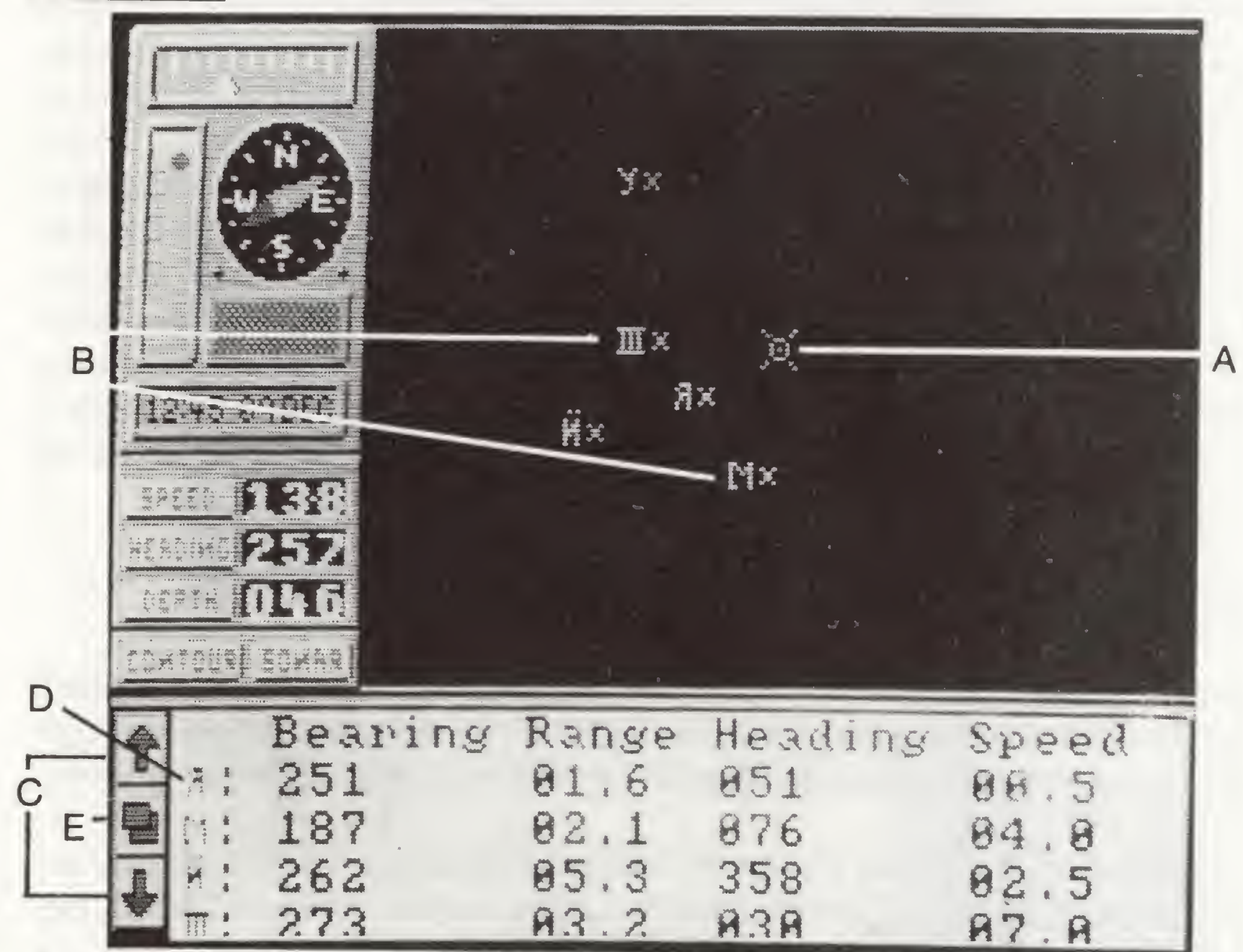
The contour control as shown in Figure 4.2 turns the contour display on and off, as indicated in the main control panel section. When turned off, the contour map becomes the sonar screen.

This screen indicates all sonar contacts picked up from either passive or active sonar. Each reference is keyed and details of the contact are shown in the message window.

The bearing shown is from Red October to the sonar contact. The range is in nautical miles, together with the approximate heading of the contact. Approximate speed in knots is also shown.

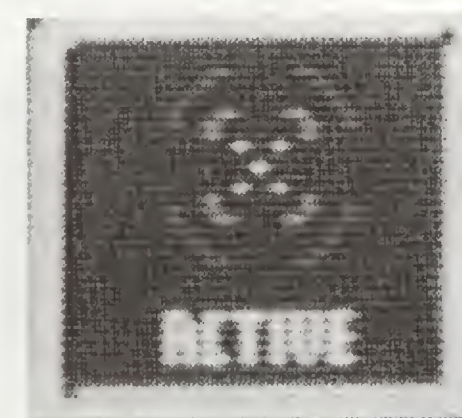
This information is updated by use of passive or active sonar. It may be considered necessary by some commanders to verify data with visual sightings. The message window data can be used by either the hydrophonics window or as the fire control computer to lock onto a target for analysis or attack. Selection is made by moving the pointer over the appropriate symbol and clicking once on the left-hand mouse button. When there are a large number of sonar contacts on screen the list can be scrolled up and down using the arrows shown in Figure 4.3. The sonar information window can also be turned back to the ordinary message window by clicking on the page symbol between the scroll arrows.

FIGURE 4.3



- A - Red October
- B - Sonar Traces and References
- C - Scroll Arrows
- D - Sonar Reference
- E - Sonar Information Control

B - Active Sonar.



Clicking on this icon authorises the emission of an active sonar signal. The results are two-fold. An accurate sonar picture will be given, allowing the Captain to assess a target, its speed, heading and identity. It will also indicate to the ships on the receiving end of the active sonar that, if they had not already discovered it, a potentially hostile submarine is in the area and may be about to launch an attack.

This use of active sonar may also give the target ships a fix on the submarine's bearing.

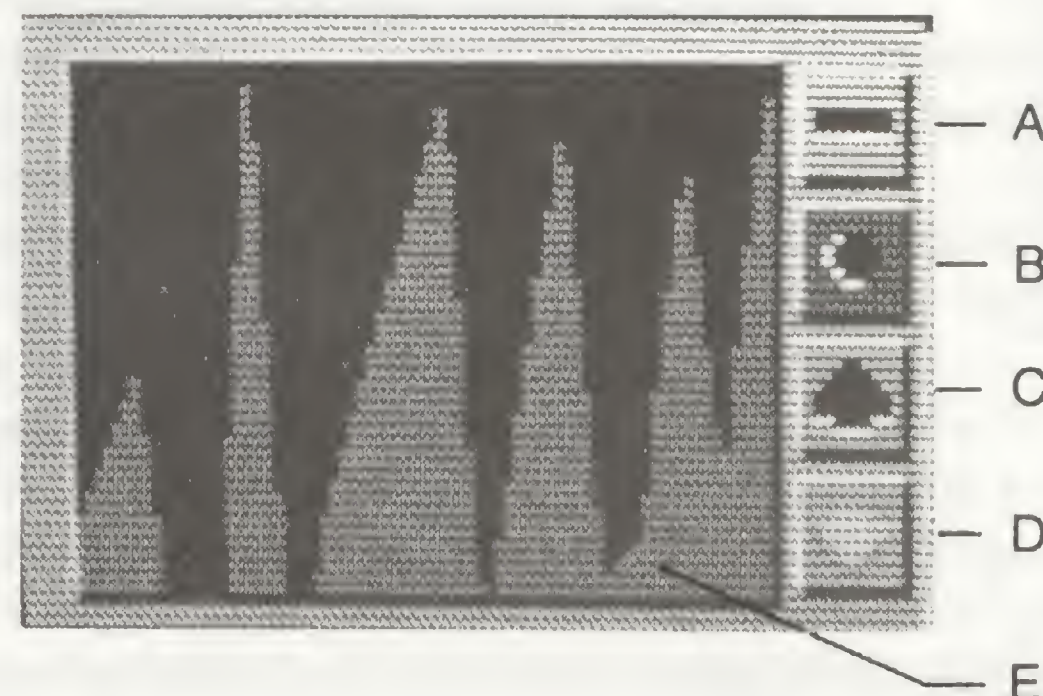
The use of active sonar is therefore risky. But the benefits in terms of prosecuting an attack are substantial as it will reveal detailed information on the target vessels essential for an attack to succeed.

C - Cross Section Window



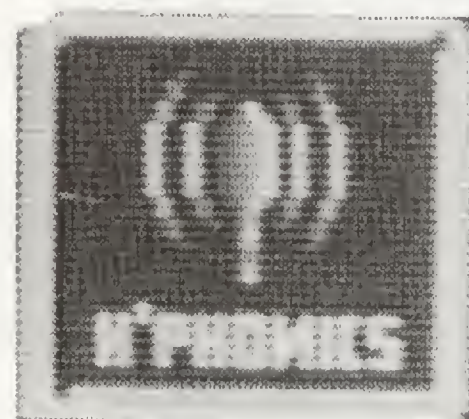
This gives the Captain a window in the message area which shows a cross-sectional analysis of the sea bed (Figure 4.4). This can either be along the 90° or the 180° axis of the submarine and alternated between them within the window. The views may also be magnified and de-magnified to allow the careful planning of routes through the more complex areas of the sea bed.

FIGURE 4.4



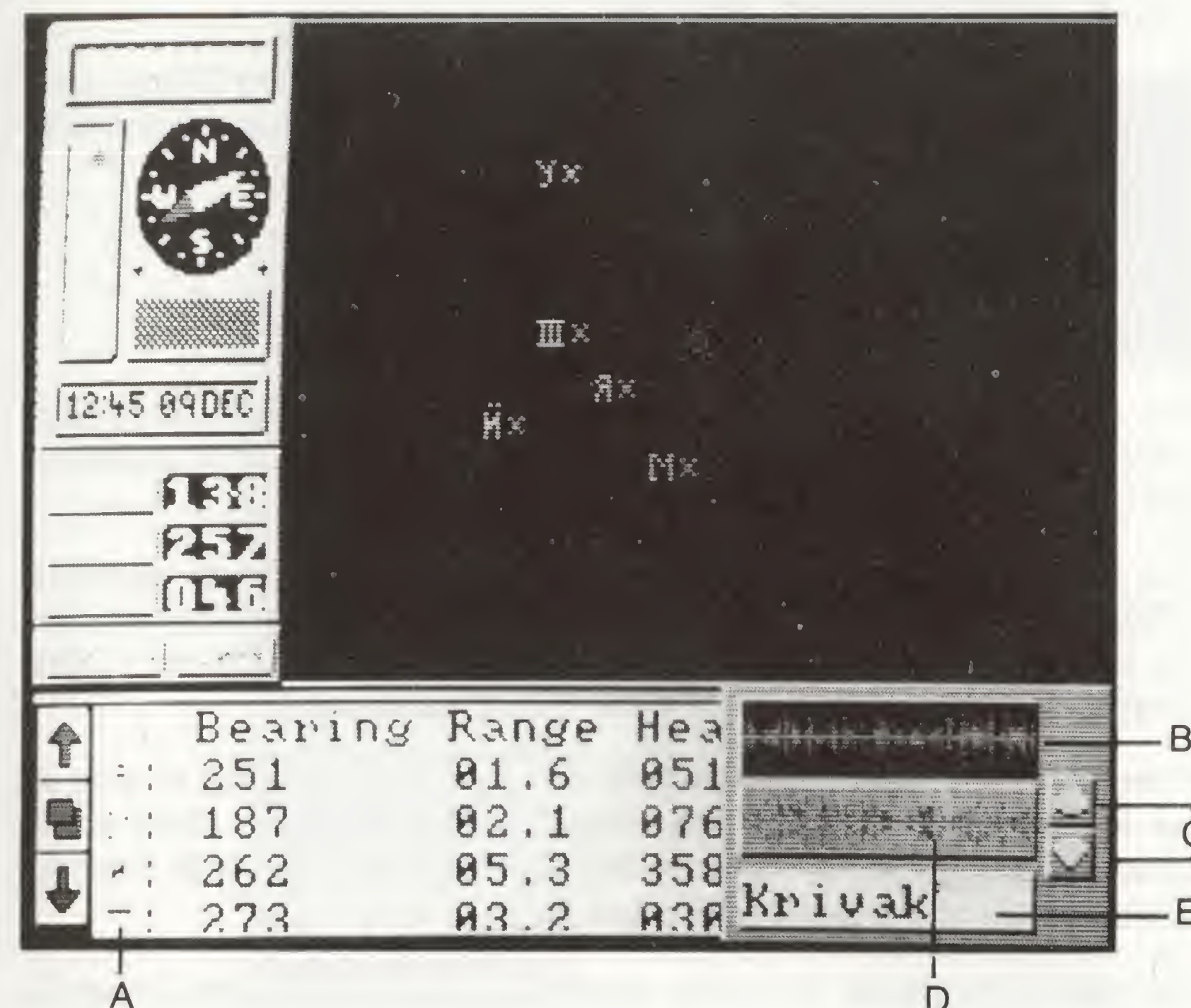
- A The 90° cross section gives the forward view of the submarine to allow the planning of routes directly ahead.
- B The 180° cross section shows a projection to the side to allow an all round view of what routes are available to the Captain.
- C The magnification button extends forward the view of the sensors.
- D The de-magnification button reduces the forward magnification of the sensors.
- E Actual representation of sea bed formations (magnified).

D - Hydrophonics.



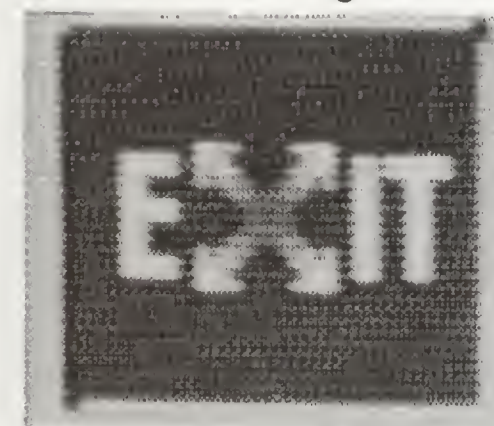
This allows an analysis in the cross section window of the hydrophonic signal of the highlighted target to be compared with a library of existing signals (Figure 4.5). It allows the Captain to make an accurate assessment of vessels in the target area.

FIGURE 4.5



- A - Sonar Screen Traces
- B - Current Trace Acoustic Signature
- C - Scroll Arrows for Data Bank
- D - Current Data Bank Acoustic Signature
- E - Current Data Bank Identity.

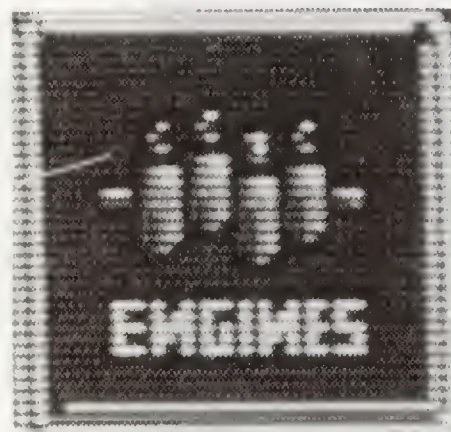
E - Exit to Higher Command Level.



This icon allows the Captain to return to the higher level of icons, and is present at all sub-levels of command icons.

DRIVE CONTROL

FIGURE 5: ENGINEERING OFFICER



This icon calls up the Engineering Officer, and allows the selection of Red October's propulsion method.

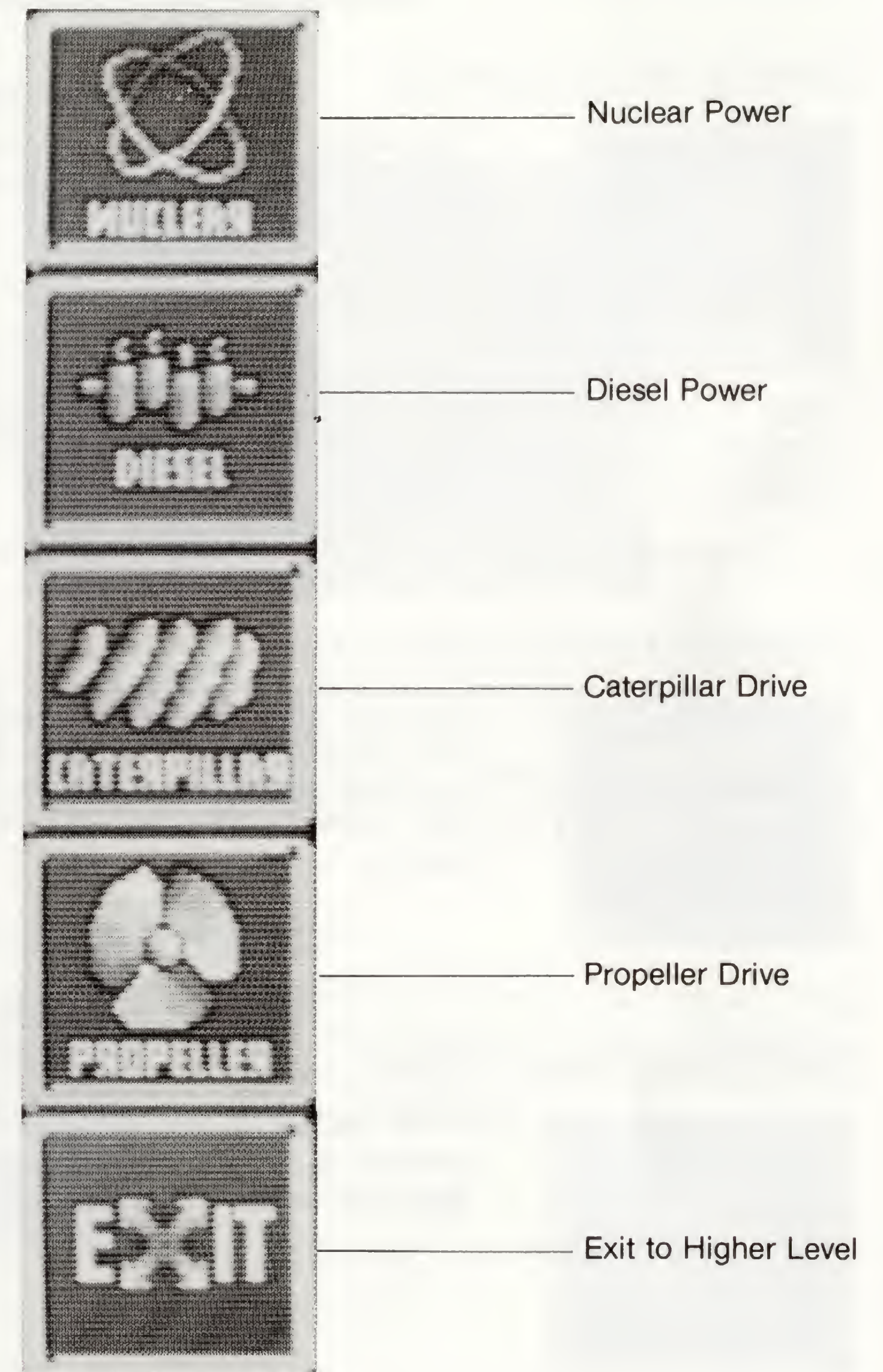
The most important factor in running Red October will be the Captain's choice of power and drive. This in turn determines the amount of cavitation and general noise level.

The advantage of the caterpillar drive is based on the use of impellers rather than propellers. The submarine sucks water in through the bow, and the impellers eject it from the stern, thereby moving the ship. This eliminates the cavitation sounds caused by propellers.

When conventional propellers turn at high speed they develop an area of low pressure behind the trailing edge of the blade. When these areas collapse under pressure, water rushes forward against the blade, causing noise and vibration, making detection easier.

The speed advantage of nuclear power compared with diesel power is significant. The noise factor when using diesel power is also a problem when trying to avoid detection. However, after day 10 of the game, the nuclear power plant is withdrawn from use (as part of the defection plan) and the Captain is forced to use either the diesel power, or the more silent but slower caterpillar drive. The choice of propulsion is up to the Captain and the changeovers will be executed by the engine room on demand.

FIGURE 5.1



WEAPONS SYSTEMS

The Red October has only torpedoes to fire, and hence the Captain must decide simply when and what to fire.

FIGURE 6: WEAPONS OFFICER



This selects the weapons officer and allows control of Red October's offensive capability - acoustic torpedoes.

Target selection can be either manual, or via the sonar message window which also acts as the fire control computer. The details from this system are used to aim the Red October's torpedoes.

FIGURE 6.1: TORPEDO TUBE STATUS



This icon gives the status of Red October's four torpedo tubes, including how many torpedoes are left for each tube. To change tubes, click the left-hand mouse button over the icon.

FIGURE 6.2: MANUAL OVERRIDE



If the Captain is unsure of the reliability or success of his acoustic torpedoes, he may select the manual override option.

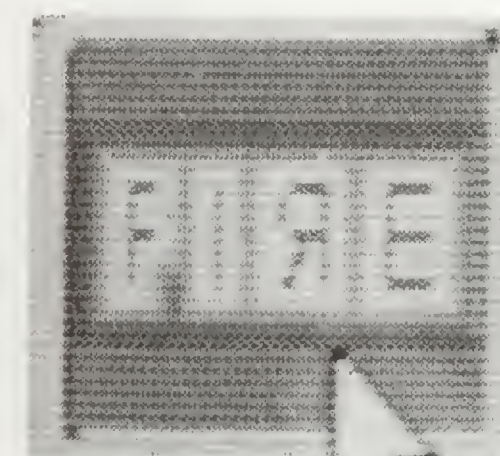
This brings into operation the heading and elevation control (Figure 6.3). By clicking on the arrows the Captain can set the heading and elevation angle for each torpedo. The difficulty is to avoid setting the angle too steeply to avoid possible visual sighting of the torpedo by the target, thereby allowing it to take evasive action.

FIGURE 6.3:



- A - Scroll Arrows to raise/lower angle of elevation
- B - Scroll Arrows to change heading port/starboard
- C - Current heading of acoustic torpedo
- D - Current angle of elevation of acoustic torpedo

FIGURE 6.4: LAUNCH TORPEDO



The FIRE icon launches the torpedo. The noise and effect of launching a torpedo is a significant danger in that it gives away your position to the target.

FIGURE 6.5: LAY FLACK



This icon allows the Captain to lay electronic decoys to deflect and confuse incoming torpedoes and missiles. The disadvantage of using such a decoy is that it creates extra noise which highlights your presence in the area.

Whilst the Red October's primary role is to launch offensive missiles there is no doubt that her offensive ship-to-ship weaponry would enable her to undertake an engagement with a surface vessel with a high degree of confidence and success.

PERISCOPE SYSTEMS

FIGURE 7: PERISCOPE SYSTEMS



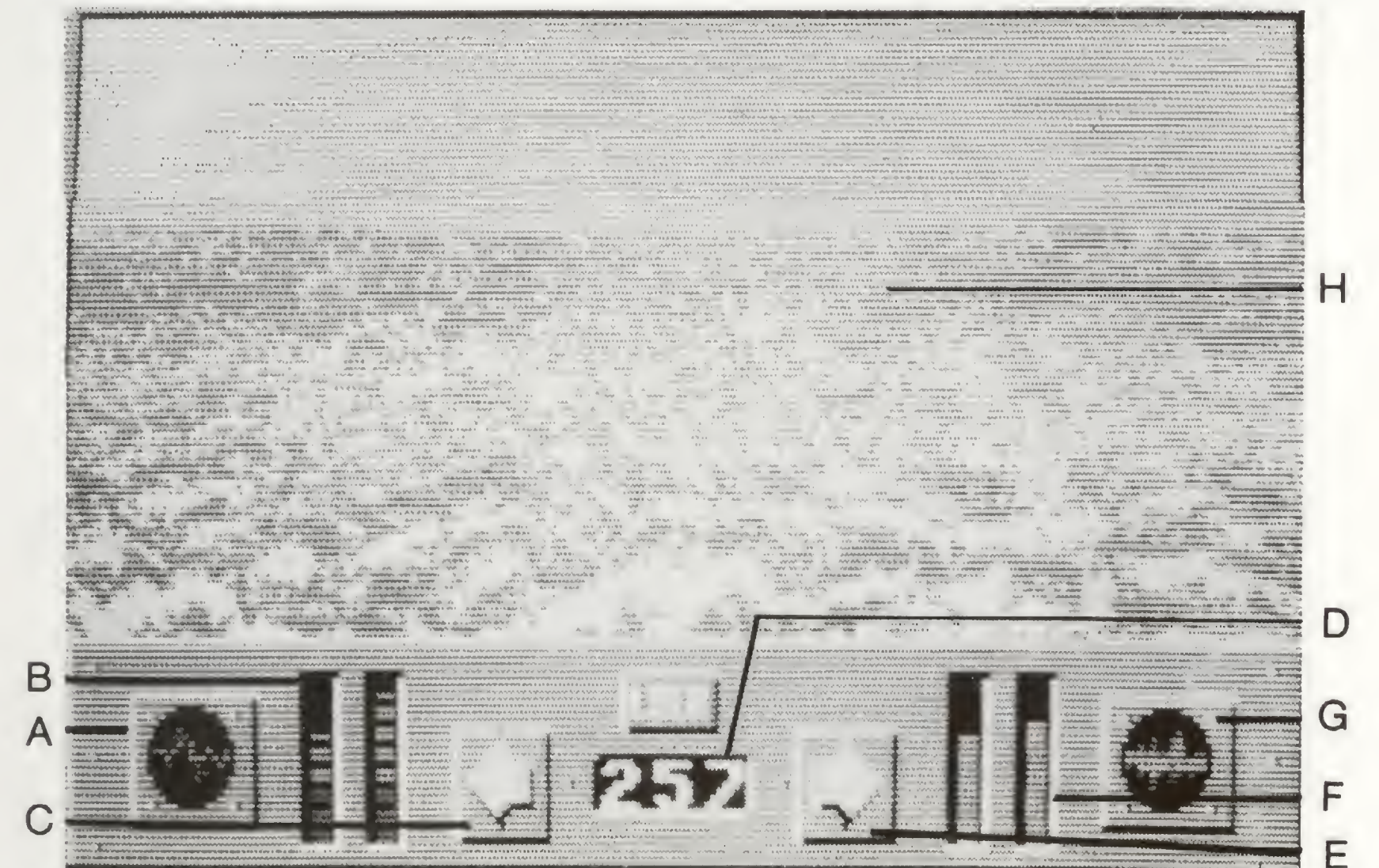
This section of icons can only be called by the Captain when at periscope depth. Once achieved, the Captain may select his periscope view and check the horizon accordingly.

FIGURE 7.1: SEARCH SCOPE



This gives a horizon view and is used to test if it is safe to surface and for identification of targets. To scroll the view, simply click over the direction arrows.

FIGURE 7.2:



- | | | |
|--------------------------|--------------------------|---------------------|
| A - Sonar Activity | D - Periscope Bearing | G - E.S.M. Activity |
| B - Battery Charge Level | E - Periscope Right | H - Periscope View |
| C - Periscope Left | F - Compressed Air Level | |

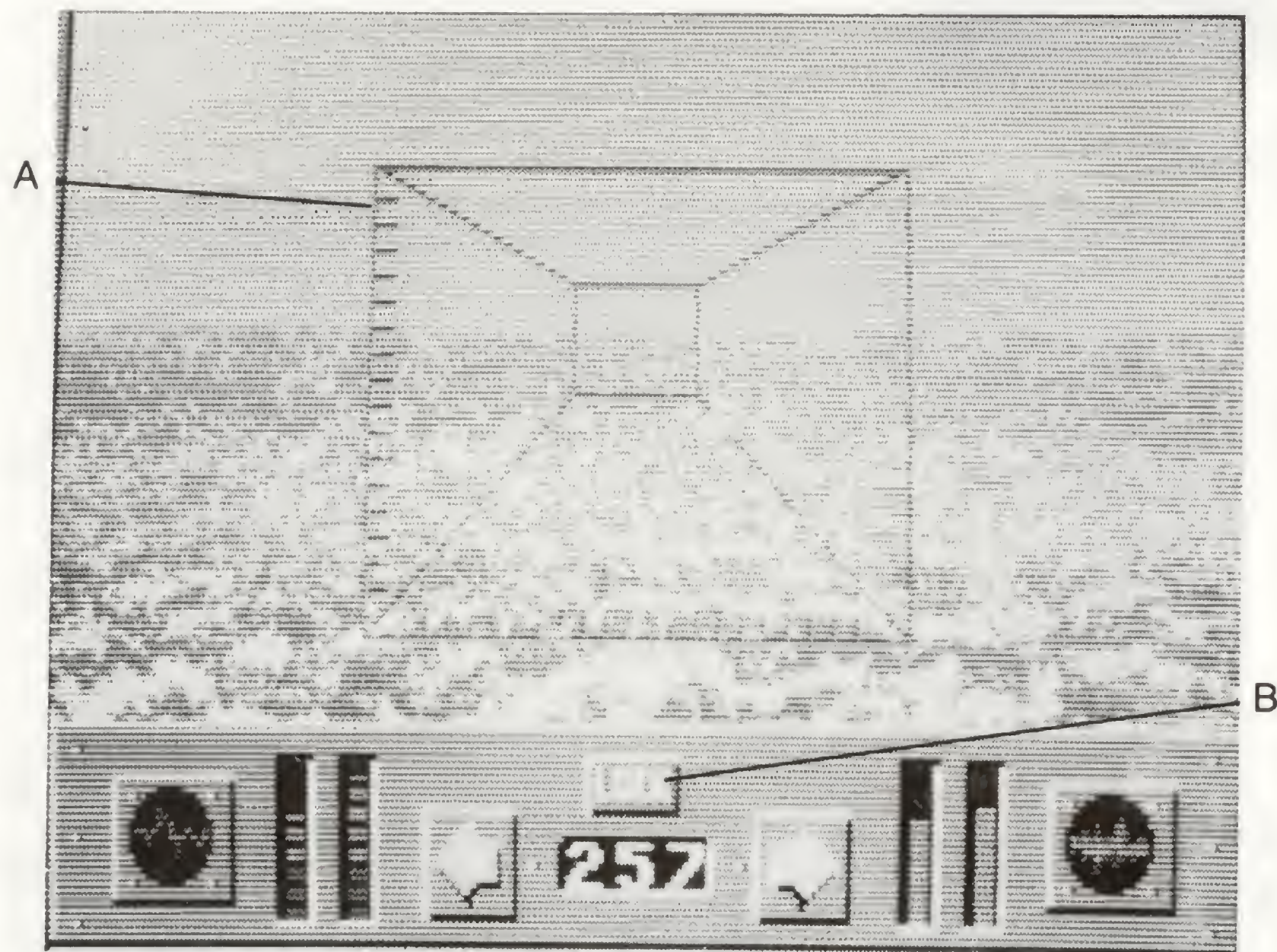
FIGURE 7.3: ATTACK SCOPE ICON



This allows the Captain to take readings from the control panel and use them directly in his fire control system to enhance the prospects of a successful attack (Figure 4).

FIGURE 7.4

The panel has a sight and lock button to input data into the fire control computer. Position your pointer over the button and click the left hand button to input the data to your fire control computer.



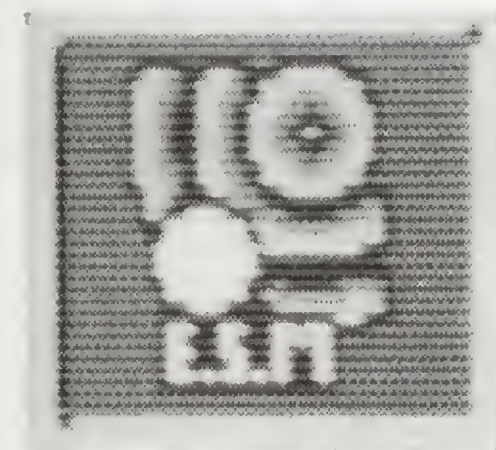
A - Attack Sight
B - "Lock-on Target" Control

FIGURE 7.5: NIGHT SCOPE



This uses the latest image intensification technology to ensure that the Captain can also use visual references.

FIGURE 7.6: ELECTRONIC SURVEILLANCE MANUAL (ESM)



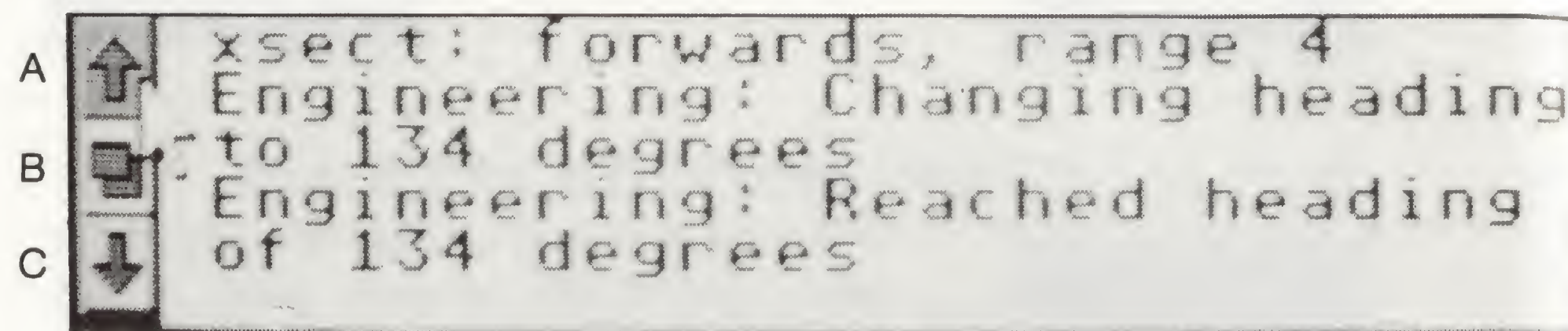
The ESM antennae enables any messages being transmitted between ships to be intercepted and relayed to the Captain. It allows the overall perspective of fleet positions on the Atlantic map to be updated and may also give useful information about enemy intentions during the search or rendezvous.

The use of the periscope makes it easier to be detected through radar or even visual contact. Hence to deploy the periscope is a risky option. However, many modern submarine commanders prefer the security of visual sightings and identifications before launching an attack.

THE MESSAGE WINDOW

As the Captain gives orders and the situation changes, he will receive text information in the message window.

FIGURE 8: MESSAGE WINDOW



- A - Scroll Messages Up
- B - Scroll Messages Down
- C - Change to/from Sonar Reference Window

This contains all verbal responses to orders and other information including sonar contacts, ESM transmission intercepts, damage control reports and much more . . .

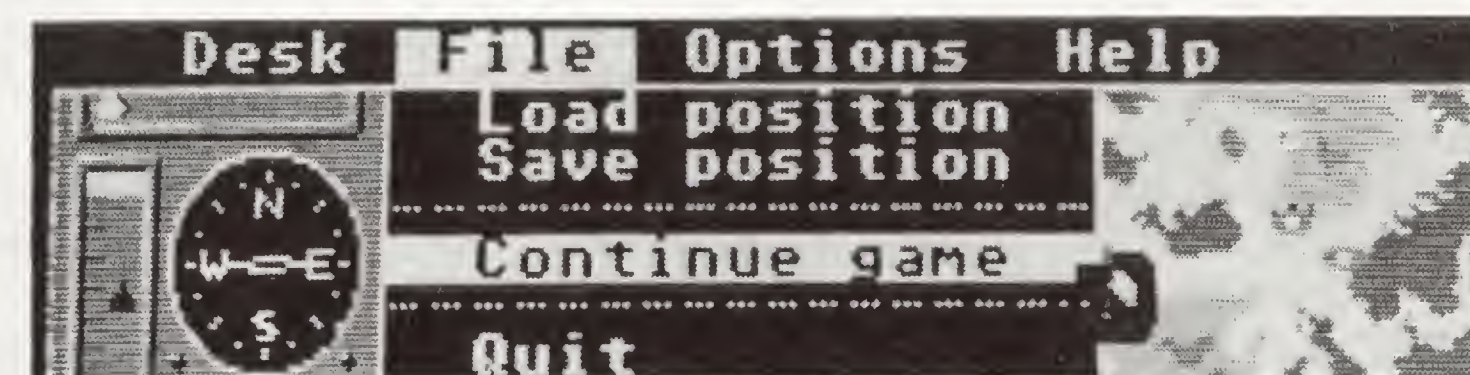
Messages can be scrolled up and down so that information may be retrieved if required. The message window also doubles as the sonar and fire control window by clicking on the central icon. It may also be partially overwritten by the hydrophonics data or the cross section window.

Information is a submarine commander's lifeline. Observation of the data that passes through this window is absolutely vital for the success of your mission.

PLAYER OPTIONS

By clicking on the right hand mouse button, the player can call up a series of player options in the form of a desk top. These are called up by moving the icon pointer over them and clicking the left-hand mouse button.

FIGURE 9: PLAYER OPTIONS



ABOUT RED OCTOBER

This section pulls down text information on Red October as general background for the player.

SAVE GAME

This option allows the player to follow a series of on-screen prompts to save his current position on a blank formatted disk.

LOAD GAME

This option allows the player to re-load a previously saved position from disk. In this way a game can be spread over several days, weeks or months.

RECOGNITION CHARTS

This allows the player to pull down recognition charts of ships to assist his evaluation of periscope information.

STRATEGY HINTS

This allows the player to pull down strategy hints on submarine warfare, and tactics for avoiding detection and attack.

CONTROLLING RED OCTOBER

This gives details of how to control Red October and the detailed use of the systems it operates.

NOTES

COMMODORE 64/128K

The principal change from the manual for the Commodore version of The Hunt for Red October is screen layout. The main display area occupies the top half of the screen, the icon controls the lower half.

All icons with the exception of the Weapons icon (Fig. 6) which is replaced by a skull and crossbones are as shown in the manual. The sonar screen can be alternated with the contour screen to show all ship positions.

To operate the attack scope lock, select target as per the manual and then select the lock button.

Pressing F1 calls up the player help options, including a full load and save facility. A start position is saved at HFRO1.

SPECTRUM 48/128

The principal changes from the manual for the Spectrum and MSX versions of The Hunt for Red October are omissions due to machine limitations. There are no Recognition Charts and instead of the Contour Map the two terrain cross sections are displayed in the main display window and work as for the terrain views in the manual. The attack scope works in the same way as the Search scope.

Using the Hydrophonics Facility gives a message as to the possible identity of an enemy ship as opposed to a graphic display as explained in the manual.

The player options including load and save are called up by using the tape symbol situated under the text window scrolling icons.

It is advised that you save a start position on a blank tape when beginning the game.

MSX

Z = left
X = right
O = Up
K = down
Space = fire

AMSTRAD CPC 464/6128

Cassette:

Insert cassette and press CONTROL and little ENTER keys, press play and then any key. The game will now load and run.

Disc:

Insert disc and type RUN "DISC" (return), the disc will now load and run.

The principal changes from the manual for the Amstrad version are:

1. The layout of the screen is slightly different, the compass is a horizontal block across the screen as opposed to a circular compass as per the manual. There are no contour or sonar buttons below the heading indicator, there is also no target control button. Above the text window there are four boxes, the arrows are used to scroll the text window up and down, between the two arrows is the icon for switching between the text window and the sonar message window. The fourth of the boxes TAPE is used to call up the help menu.

2. Some of the facilities that are available on larger versions have been omitted due to machine limitations, they are:

- a) There is no terrain window. Messages will appear in the text window giving your depth under keel.
- b) There are no "current trace acoustic signatures" from Hydrophonics, instead messages will appear in the text window giving possible identities of ships. Note, this will only appear if the Hydrophonics icon is switched on.
- c) When in weapons "control mode" the manual override is displayed numerically rather than graphically. Clicking on increase or decrease will alter the settings of the manual override accordingly.
- d) There are no ship recognition charts available on screen. The wall chart must be used for identification of ships.

3. The SAVE and LOAD facility.

Cassette version:

Clicking on the tape icon brings up a help menu. Clicking on the SAVE or LOAD icons allow a position to be stored for later use or recalled after a break/sinking. Follow the on screen prompts to use these options. The pause icon allows continuation of the game after calling the help menu.

NOTE:

IT IS ADVISED THAT YOU SAVE A POSITION AS SOON AS THE GAME BEGINS TO ALLOW YOU TO PLAY AGAIN WITHOUT RELOADING THE COMPLETE GAME. A BLANK CASSETTE WILL BE NEEDED FOR THIS.

Disc version:

Same as above except a blank formatted disc must be used.

SHIP RECOGN



CLASS: KRIVAK (USSR)
CATEGORY: FRIGATE
DISPLACEMENT: 3,900 tons
SPEED: 32 knots
ARMOURMENTS:
 4 x SS-N-14 ASW Missiles
 4 x SA-N-4 SAM Missiles
 4 x 76mm Guns
 2 x 12 barrelled RBU 6000
 8 x 21" Torpedo Tubes



CLASS: KASHIN (USSR)
CATEGORY: DESTROYER
DISPLACEMENT: 4,900 tons
SPEED: 36 knots
ARMOURMENTS:
 4 x SS-N-2C SSM Missiles
 4 x SA-N-1 SAM Missiles
 4 x 76mm Guns
 4 x 30mm Gatling Guns
 2 x 12 barrelled RBU 6000 (forward)
 2 x 6 barrelled RBU 1000 (aft)
 5 x 21" Torpedo Tubes



CLASS: UDALOY (USSR)
CATEGORY: DESTROYER
DISPLACEMENT: 8,000 tons
SPEED: 32 knots
ARMOURMENTS:
 2 x Helix A Helicopters
 2 x SS-N-14 ASW Missiles
 1 x SA-N-8 SAM Missiles
 2 x 100mm Guns
 4 x 30mm Gatling Guns
 2 x RBU 6000
 8 x 21" Torpedo Tubes



CLASS: SLAVA (USSR)
CATEGORY: CRUISER
DISPLACEMENT: 12,500 tons
SPEED: 34 knots
ARMOURMENTS:
 16 x SS-N-12 SSM Missiles
 8 x SA-N-6 SAM Missiles
 2 x SA-N-4 SAM Missiles
 2 x 130mm Twin Guns
 6 x 30mm Gatling Guns
 2 x RBU 6000 Launchers
 1 x Hormone B ASW Helicopter



CLASS: MOSKVA (USSR)
CATEGORY: HELICOPTER CARRIER
DISPLACEMENT: 17,500 tons
SPEED: 30 knots
ARMOURMENTS:
 14 x Hormone A ASW Helicopters
 2 x Twin SA-N-3 Missiles
 4 x 57mm/70 Twin Guns
 1 x Twin A/S Missile Launcher
 2 x 12 barrelled RBU 6000



CLASS: KIROV (USSR)
CATEGORY: BATTLE CRUISER
DISPLACEMENT: 28,000 tons
SPEED: 33 knots
ARMOURMENTS:
 20 x SS-N-19 SSM / 12 x SA-N-6 SAM
 2 x SA-N-4 SAM / 2 x SS-N-14 Twin ASW
 2 x 100mm Single Guns
 8 x 21" Torpedo Tubes
 1 x 12 barrelled RBU 6000 (forward)
 2 x 6 barrelled RBU 6000 (aft)



CLASS: ENTERPRISE (USA)
CATEGORY: AIRCRAFT CARRIER
DISPLACEMENT: 91,000 tons
SPEED: 35 knots
ARMOURMENTS:
 90 Aircraft
 3 x Phalanx Mk 15 CIWS Systems
 2 x 40mm Mk II Saluting Guns
 3 x 20mm Mk 68 Guns



CLASS: FORRESTAL (USA)
CATEGORY: AIRCRAFT CARRIER
DISPLACEMENT: 81,000 tons
SPEED: 34 knots
ARMOURMENTS:
 90 Aircraft
 3 x Basic Point Missile Defence Systems
 armed with Sea Sparrow Missiles
 3 x 20mm Mk 16 Phalanx CIWS
 4 x 40mm Saluting Guns



CLASS: INVINCIBLE (UK)
CATEGORY: AIRCRAFT CARRIER
DISPLACEMENT: 19,500 tons
SPEED: 28 knots
ARMOURMENTS:
 Sea Dart Ship to Ship Missiles
 Sea Eagle (for use with Sea Harriers)
 2 x 20mm Phalanx



CLASS: TICONDEROGA (USA)
CATEGORY: CRUISER
DISPLACEMENT: 9,600 tons
SPEED: 30 knots
ARMOURMENTS:
 8 x Harpoon SSM
 38 x Standard ER (SM-2)/ASROC
 2 x 5"/54 Mk 45 Guns
 2 x 20mm/76 Mk 16 CIWS Guns
 2 x 40mm Saluting Guns
 2 x Triple Torpedo Tubes



CLASS: VIRGINIA (USA)
CATEGORY: CRUISER
DISPLACEMENT: 11,000 tons
SPEED: 30 knots
ARMOURMENTS:
 8 x Harpoon SSM
 8 x Tomahawk SAM/ASW
 Standard MR/ASROC
 2 x 5"/54 Guns
 2 x 20mm/76 Mk 16 CIWS
 2 x 40mm Mk II Saluting Guns
 2 x Triple Torpedo Tubes



CLASS: CHARLES F. ADAMS (USA)
CATEGORY: DESTROYER
DISPLACEMENT: 4,500 tons
SPEED: 30 knots
ARMOURMENTS:
 Harpoon SSM
 Tartar SAM
 2 x 5"/54 Guns
 1 x ASROC 8 Tube Launcher
 2 x Triple Torpedo Tubes

ABBREVIATIONS

AA
A/S, ASW
DC

Anti-aircraft
 Anti-submarine warfare
 Depth charge

DCT
Displacement

Depth charge thrower
 The weight of water displaced by a ship's hull wh
 All displacements shown are fully laden with store

COMPARISON CHART



CLASS: SVERDLOV (USSR)
CATEGORY: CRUISER
DISPLACEMENT: 17,000 tons
SPEED: 32 knots
ARMOURMENTS:
 2 x SA-N-2 SAM Missiles
 12 x 152mm Guns
 12 x 100mm Guns
 32 x 37mm Guns
 16 x 30mm Guns



CLASS: KYNDA (USSR)
CATEGORY: CRUISER
DISPLACEMENT: 5,500 tons
SPEED: 34 knots
ARMOURMENTS:
 8 x SS-N-3B SSM Missiles
 2 x SA-N-1 SAM Missiles
 4 x 76mm Twin Guns
 4 x 30mm Gatling Guns
 2 x 12 barrelled RBU 6000
 6 x 21" Torpedo Tubes



CLASS: KARA (USSR)
CATEGORY: CRUISER
DISPLACEMENT: 9,700 tons
SPEED: 34 knots
ARMOURMENTS:
 1 x Hormone A Helicopter ASW
 8 x SS-N-14 ASW / 2 x SA-N-3 SAM
 2 x SA-N-4 SAM / 4 x 76mm/59 Guns
 4 x 30mm Gatling Guns
 2 x 12 barrelled RBU 6000 (forward)
 2 x 6 barrelled RBU 6000 (aft)
 10 x 21" Torpedo Tubes



CLASS: KIEV (USSR)
CATEGORY: AIRCRAFT CARRIER
DISPLACEMENT: 37,000 tons
SPEED: 32 knots
ARMOURMENTS:
 32 Aircraft
 4 x Twin SS-N-12 SSM / 2 x Twin SA-N-3 SAM
 2 x Twin SA-N-4 SAM / 4 x 76mm Guns
 8 x 30mm Gatling Guns
 1 x Twin SUW-N-1 ASM
 2 x 12 barrelled RBU 6000 Launchers
 10 x 21" Torpedo Tubes



CLASS: KANIN (USSR)
CATEGORY: DESTROYER
DISPLACEMENT: 4,700 tons
SPEED: 35 knots
ARMOURMENTS:
 2 x SA-N-1 SAM Missiles
 8 x 57mm Guns
 8 x 30mm Guns
 3 x 12 barrelled RBU
 10 x 21" Torpedo Tubes



CLASS: GRISHA (USSR)
CATEGORY: FRIGATE
DISPLACEMENT: 1,200 tons
SPEED: 27 knots
ARMOURMENTS:
 2 x SA-N-4 SAM Missiles
 2 x 57mm Guns
 2 x 12 barrelled RBU 6000
 4 x 21" Torpedo Tubes



CLASS: ARK ROYAL (UK)
CATEGORY: AIRCRAFT CARRIER
DISPLACEMENT: 19,500 tons
SPEED: 28 knots
ARMOURMENTS:
 Sea Dart Ship to Ship Missiles
 Sea Eagle (for use with Sea Harriers)
 3 x 20mm Phalanx



CLASS: NIMITZ (USA)
CATEGORY: AIRCRAFT CARRIER
DISPLACEMENT: 91,500 tons
SPEED: 30 knots
ARMOURMENTS:
 90+ Aircraft
 3 x Phalanx 20mm Mk 16 CIWS Systems



CLASS: LEAHY (USA)
CATEGORY: CRUISER
DISPLACEMENT: 8,200 tons
SPEED: 33 knots
ARMOURMENTS:
 8 x Harpoon Surface to Air Missiles
 80 x Standard ER (SM-2)
 2 x Phalanx 20mm Mk 16 CIWS Systems
 1 x ASROC 8 Tube Launcher
 2 x Triple Torpedo Tubes



CLASS: SPRUANCE (USA)
CATEGORY: DESTROYER
DISPLACEMENT: 7,800 tons
SPEED: 33 knots
ARMOURMENTS:
 8 x Harpoon SSM
 Tomahawk ABL'S
 1 x Sea Sparrow SAM
 2 x 5"/54 Guns
 2 x 20mm/ Mk 16 CIWS Phalanx
 1 x ASROC 8 Tube Launcher
 2 x Triple Torpedo Tubes (Mk 32)



CLASS: BROADSWORD (UK)
CATEGORY: FRIGATE (Type 22)
DISPLACEMENT: 4,900 tons
SPEED: 30 knots
ARMOURMENTS:
 4 x Exocet SSM
 Sea Wolf SAM
 2 x 40mm Guns
 2 x 20mm Guns
 6 x Stubs Torpedo Tubes (Mk 46)
 Helicopter A/S Torpedoes



CLASS: KNOX (USA)
CATEGORY: FRIGATE
DISPLACEMENT: 4,200 tons
SPEED: 27 knots
ARMOURMENTS:
 8 x Harpoon SSM
 4 x Tomahawk SAM
 1 x 5" Mk 42 Gun
 1 x 20mm Phalanx Mk 16
 1 x ASROC 8 Tube Launcher
 4 x Fixed Torpedo Tubes (Mk 32)

en floating.
 s and ammunition.

RBU
SAM
SSM

Anti-submarine rocket launcher (Soviet)
 Surface to air missile
 Surface to surface missile

SHIPS NOT TO SCALE